Electrical 2016

ALTERNATOR SPECIFICATIONS

Output (ampere)[1]	120	150	155	157	175	177	200	210	220	225	230	240	250
Output (watts)	1620	2025	2090	2100	2360	2390	2700	2835	2970	3035	3105	3240	3375

(1) Actual output is temperature- and application-dependent.

BATTERY APPLICATIONS

Ampere-Hour Rating	60	70	70	72	78	80	90	100
Cold-Cranking Amps at 0ºF	590	610	760	650	750	730	750	900
E-Series								
5.4L V8				Std.	Opt.[2]			
6.8L V10				Std.	Opt.[2]			
F-150								
2.7L EcoBoost V6		XL/XLT[1]				Lariat[1]		
3.5L EcoBoost V6		XL/XLT				Lariat/ King Ranch/ Platinum/ Limited		
3.5L V6		XL/XLT						
5.0L V8		XL/XLT				Lariat/ King Ranch/ Platinum		
F-SERIES SUPER DUTY								
6.2L V8				Std.				
6.8L V10					Std.			
6.7L Power Stroke V8 Turbo Diesel					Std.[2]			
F-53/F-59 MOTORHOME/CHASSIS CAB								
6.8L V10					Std.			
F-650/F-750 SUPER DUTY								
6.7L Power Stroke V8 Turbo Diesel							Std.[2]	Opt.[3] Opt.[4]
6.8L V10								Std. Opt.[3]
TRANSIT								
3.2L Power Stroke I-5 Diesel			Std.[1][5]					
3.5L EcoBoost V6		Std.	Opt.[1]/ Opt.[1][5]					
3.7L V6		Std.	Opt.[1]/ Opt.[1][5]					
TRANSIT CONNECT								
1.6L EcoBoost I-4	Std.							
2.5L I-4	Std.							

(1) Absorbent Glass Mat (AGM) battery.
(2) Dual batteries – 1500 CCA.
(3) Dual batteries – 1800 CCA.
(4) Three batteries – 2700 CCA.
(5) Dual batteries – 1520 CCA.

2016 Electrical

COLD WEATHER RECOMMENDATIONS

	Equipment	
Minimum Temperature	**HD Battery**	**Engine Block Heater**
0ºF	Suggested	Not Needed
–10ºF	Recommended	Suggested
–20ºF	Recommended	Recommended
Below –20ºF	Strongly Recommended	Strongly Recommended

DEFINITIONS

SUGGESTED: Helpful, but not needed.

RECOMMENDED: Could improve reliability in less-than-ideal conditions.

STRONGLY RECOMMENDED: Will give definite improvement over the standard components.

HD Battery — Higher-capacity battery available. (Usage varies by model.)

Engine Block Heater — Available equipment for all engines. (Usage and heater capacity vary with engine requirements.)

STANDARD LIGHTING/REFLECTOR EQUIPMENT

Light Reflector	Application
Headlamps (Halogen)	All Series — Two replaceable bulbs with all models
Parking Lights	All Series — Integral with turn signals
Front/Rear Turn Signals	All Series
Front Side Marker Lights	All Series
Front Side Reflectors	All Series
Rear Side Reflectors	All Series
Front Cab Clearance and Identification Lights — 5 Amber	F-Series Dual Rear Wheel Models, F-650/F-750
Rear Side Marker Lights	All Series — integral with taillamps
License Plate Lights	All Series
Two Combination Taillamps with Integral Stop, Turn Signal and Backup Lamps and Reflective Surface	All Series
Rear Reflectors	All Series
Rear Fender Side Marker Lights — Front Amber/Rear Red	F-Series Dual Rear Wheel
Rear Clearance and Identification Lights Below Tailgate — Three Red	F-Series Dual Rear Wheel
Front Daytime Running Lamps	All Vehicles Registered in Canada

LIGHT SPECIFICATIONS AND USAGE

Light	Code	Description	Usage
Cab Marker — (5 lights) Amber	STD	Torpedo, Hella	All Model Series
Daytime Running Lamps	STD	(2) Rectangular Halogen	All Vehicles Registered in Canada
Headlamps	STD	(2) Rectangular Halogen	All Vehicles Registered in U.S. and Canada

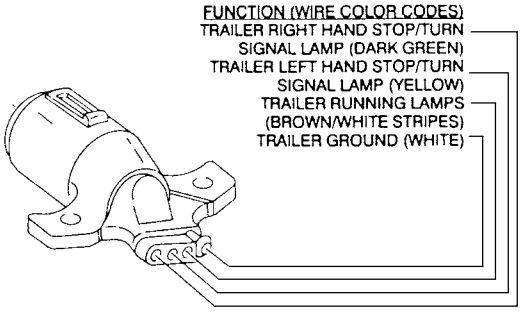
TRAILER TOWING WIRING HARNESS

F-SERIES, F-150

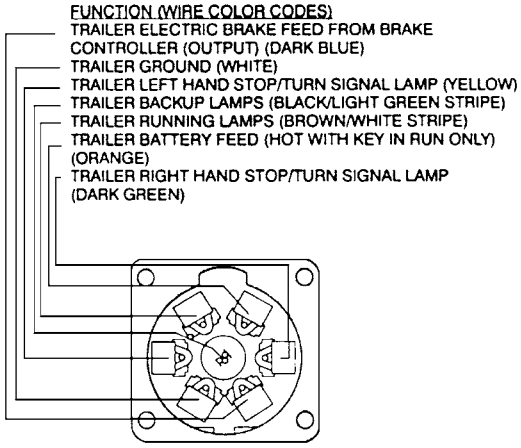
Circuit Number	Circuit Description	Color Code
RAT08	Ground	White
CAT17	Park Lamps	Brown
CAT14	Trailer Battery Feed	Orange
CAT19	To Electric Brakes	Dark Blue
CAT09	RH Turn Signal and Stop Lamps	Dark Green
CAT06	LH Turn Signal and Stop Lamps	Yellow
CAT03/CAT16	Trailer Backup Lamps	Grey with Brown Stripe
CBP30	Front Brake Controller Running Lamp Feed/Park Lamp Feed	Yellow with Blue Stripe
CBP40	Rear Brake Controller Running Lamp Feed/Park Lamp Feed	Yellow with Green Stripe
CLS30	Brake Controller Running Lamp Feed/Park Lamp Feed	Violet with White Stripe
CCB08	Vehicle Stop Lamps	Violet with White Stripe
SBB18/SBB17	B+ to Electric Brake Controller	Yellow with Red Stripe

NOTE: E-Series with Class I Trailer Towing Package, available with 4-pin harness only.

4-Pin Harness


FUNCTION (WIRE COLOR CODES)
TRAILER RIGHT HAND STOP/TURN SIGNAL LAMP (DARK GREEN)
TRAILER LEFT HAND STOP/TURN SIGNAL LAMP (YELLOW)
TRAILER RUNNING LAMPS (BROWN/WHITE STRIPES)
TRAILER GROUND (WHITE)

7-Pin Harness


FUNCTION (WIRE COLOR CODES)
TRAILER ELECTRIC BRAKE FEED FROM BRAKE CONTROLLER (OUTPUT) (DARK BLUE)
TRAILER GROUND (WHITE)
TRAILER LEFT HAND STOP/TURN SIGNAL LAMP (YELLOW)
TRAILER BACKUP LAMPS (BLACK/LIGHT GREEN STRIPE)
TRAILER RUNNING LAMPS (BROWN/WHITE STRIPE)
TRAILER BATTERY FEED (HOT WITH KEY IN RUN ONLY) (ORANGE)
TRAILER RIGHT HAND STOP/TURN SIGNAL LAMP (DARK GREEN)

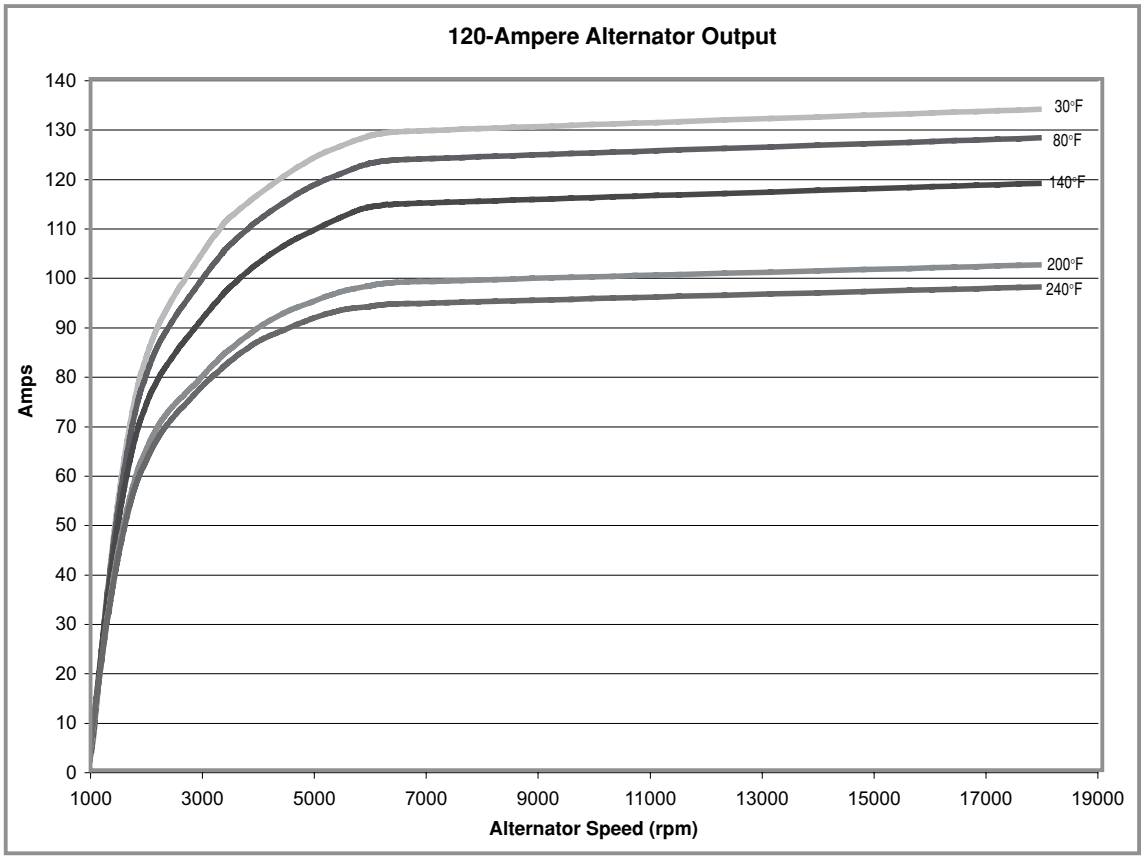
TRAILER TOW CABLE

Circuit Description	Location	Max. Fuse Size (Amp.)	Load by Body Builder	Type	Harness	Circuit No.	Circuit Color	Circuit Gauge	Recommended Insulation
Ground	—	—	—	—	PTO8-54297(1)	206	WH	10	BX
Rear Taillamp	SPDJB#22/40	15/10	10(2)	Mini	PTO8-54297(1)	CLS30/ CBP40	VT-WH/ YE-GR	14	BX
LH Stop/Turn	SPDJB#6/14	20/15	10(3)	Mini	PTO8-54297(1)	CLS18	GY-BN	16	BX
RH Stop/Turn	SPDJB#6/13	20/15	10(3)	Mini	PTO8-54297(1)	CLS19	VT-OG	16	BX
Stop	PDB#30	10	7	Mini	PTO8-54297(1)	CCB08	VT-WH	20	BX
Stop	SPDJ31	5	7	Mini	PTO8-54297(1)	CCB08	VT-WH	20	BX
Side Marker	SPDJB#22/30	15	10(2)	Mini	PTO8-54297(1)	CLS30/ CBP30	VT-WH/ YE-BL	18	BX
ABS Feed (Run Only)	PDB#53/54	10/5	7	Mini (Low-Profile)	PTO8-54292	CBB53/ CBB54	GY-BN/ VT-OR	20	BX

(1) The proper harness can be determined by looking at PTO8-54297 for PDB information, PTO8-54149 for back of cab and PTO8-54150 for end of frame.
(2) Sum of loads for side marker and taillamps not to exceed 21 amps.
(3) Sum of loads for side LH stop/turn and RH stop/turn lamps not to exceed 21 amps.

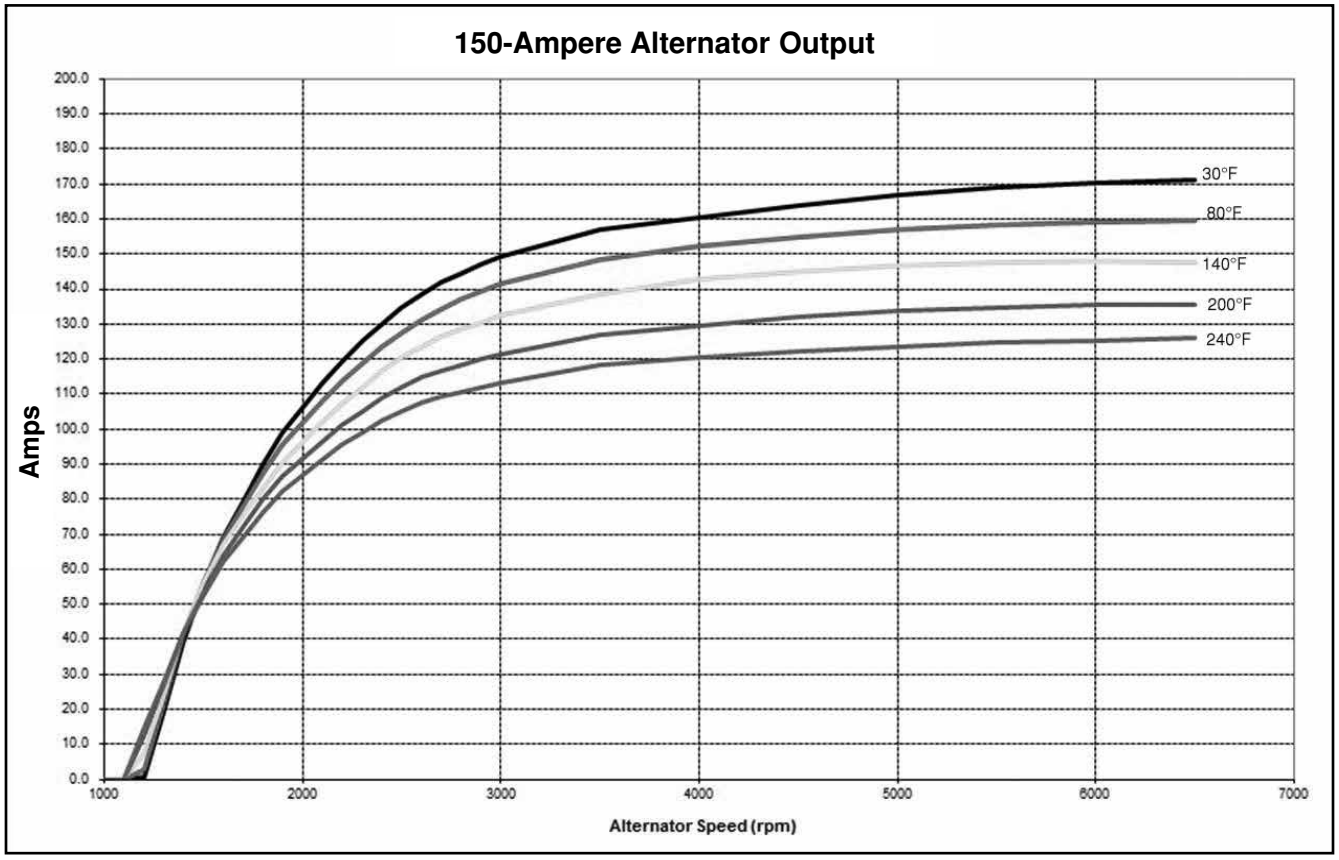
ALTERNATOR PERFORMANCE CURVES
120 AMPERES

Engine	Pulley Ratio	Model Application
5.4L SOHC V8, 6.8L SOHC V10	2.72:1	E-Series Cutaway and Stripped Chassis



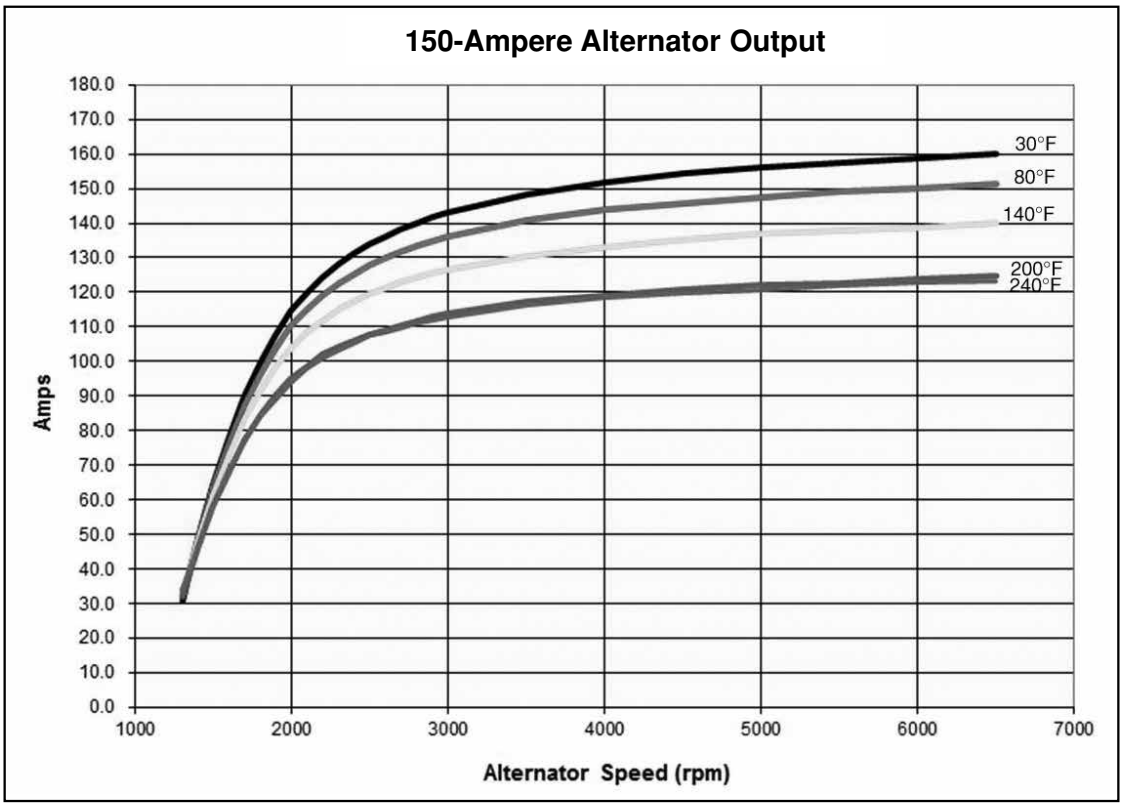
ALTERNATOR PERFORMANCE CURVES
150 AMPERES

Engine	Pulley Ratio	Model Application
3.5L EcoBoost V6, 3.7L V6	2.70:1	Transit



ALTERNATOR PERFORMANCE CURVES
150 AMPERES

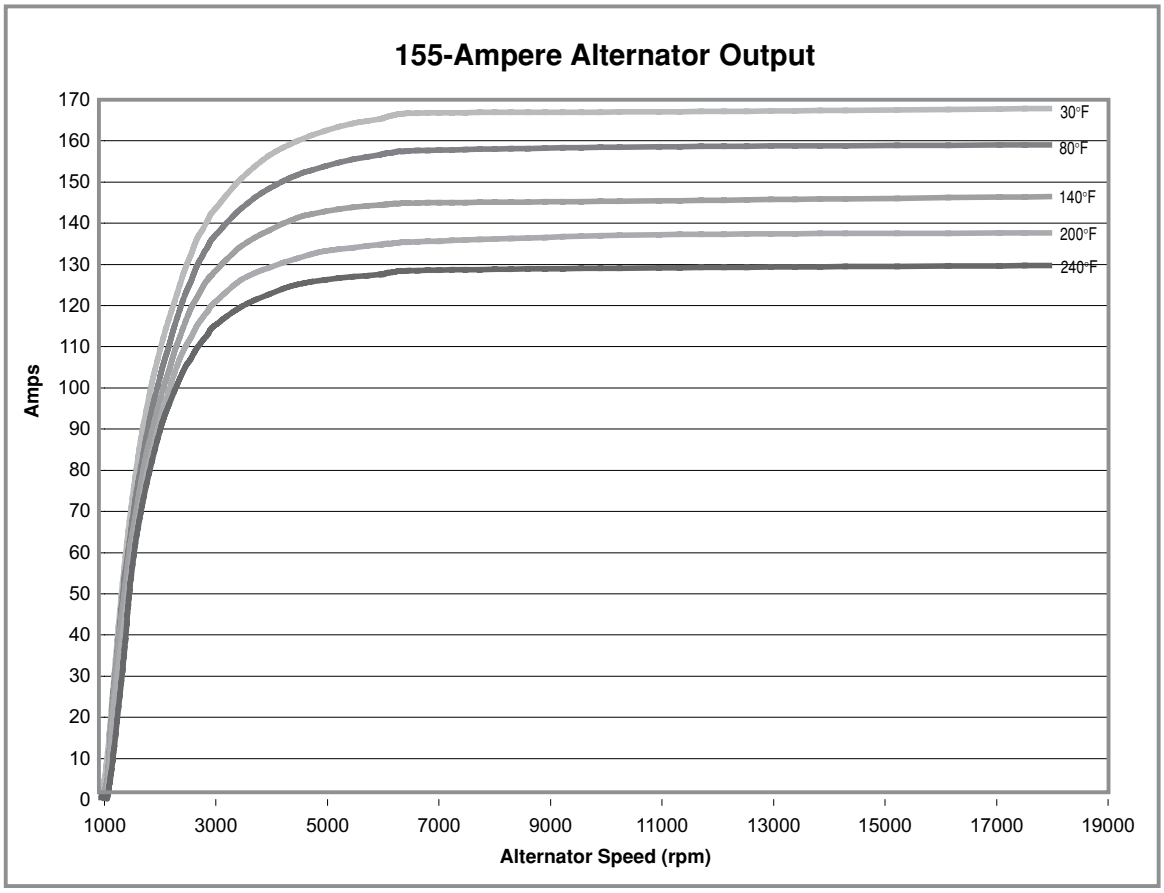
Engine	Pulley Ratio	Model Application
3.2L Power Stroke I-5 Diesel	2.70:1	Transit



ALTERNATOR PERFORMANCE CURVES
155 AMPERES

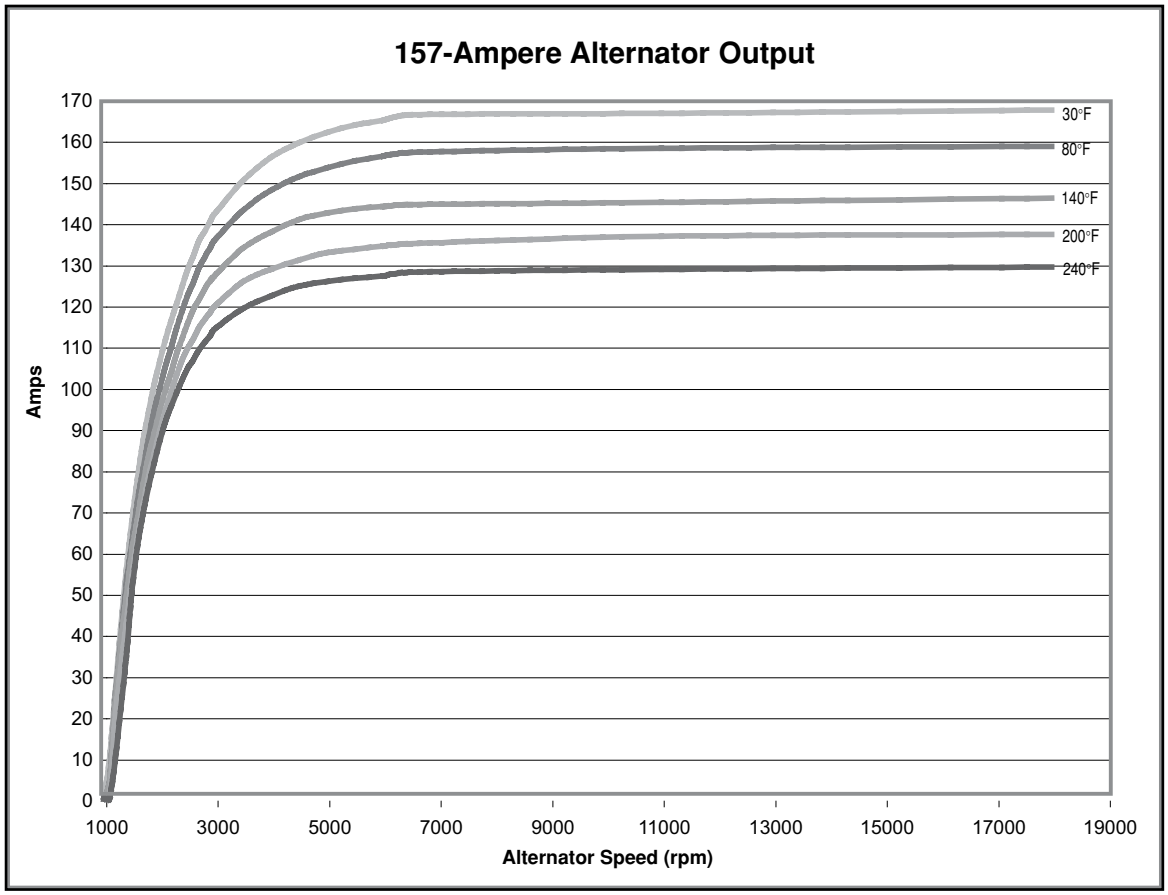
Engine	Pulley Ratio	Model Application
5.4L SOHC V8, 6.8L SOHC V10[1]	2.72:1	E-Series Cutaway and Stripped Chassis (optional)

(1) Included on E-Series with Shuttle Bus Prep Package and available as an optional upgrade.



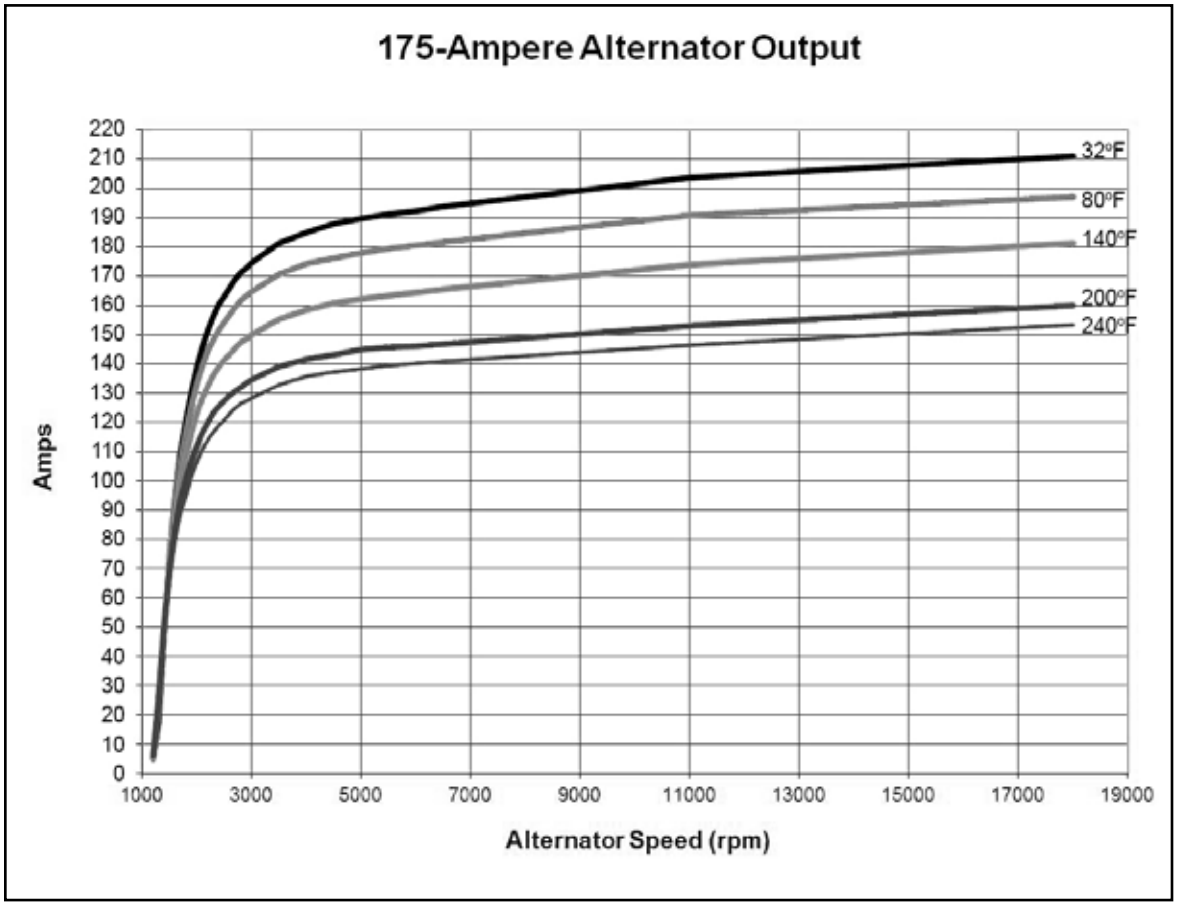
ALTERNATOR PERFORMANCE CURVES
157 AMPERES

Engine	Pulley Ratio	Model Application
6.2L V8, 6.8L V10	2.95:1	F-Series Super Duty (XL and XLT)



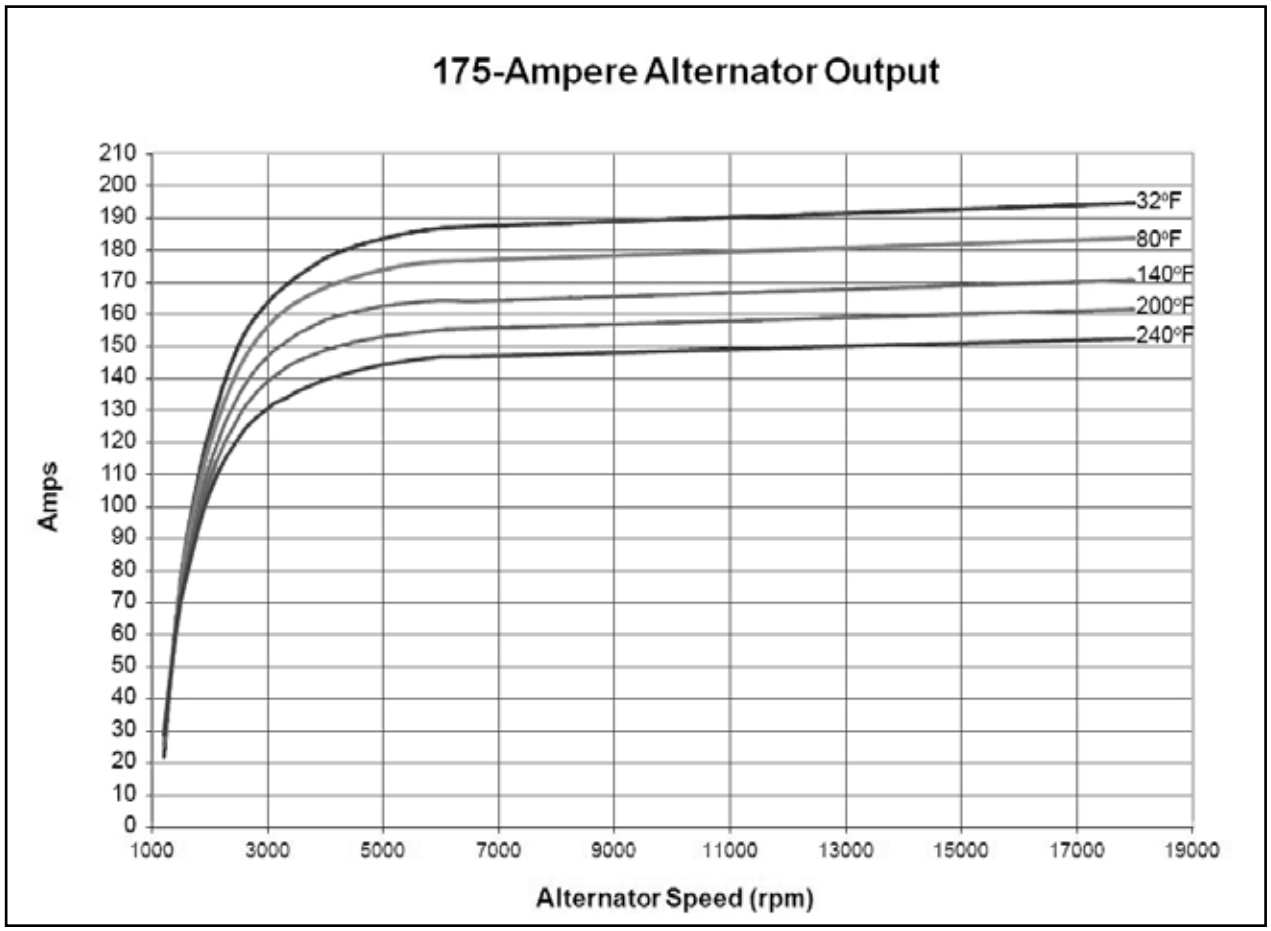
ALTERNATOR PERFORMANCE CURVES
175 AMPERES

Engine	Pulley Ratio	Model Application
1.6L EcoBoost I-4	2.45:1	Transit Connect



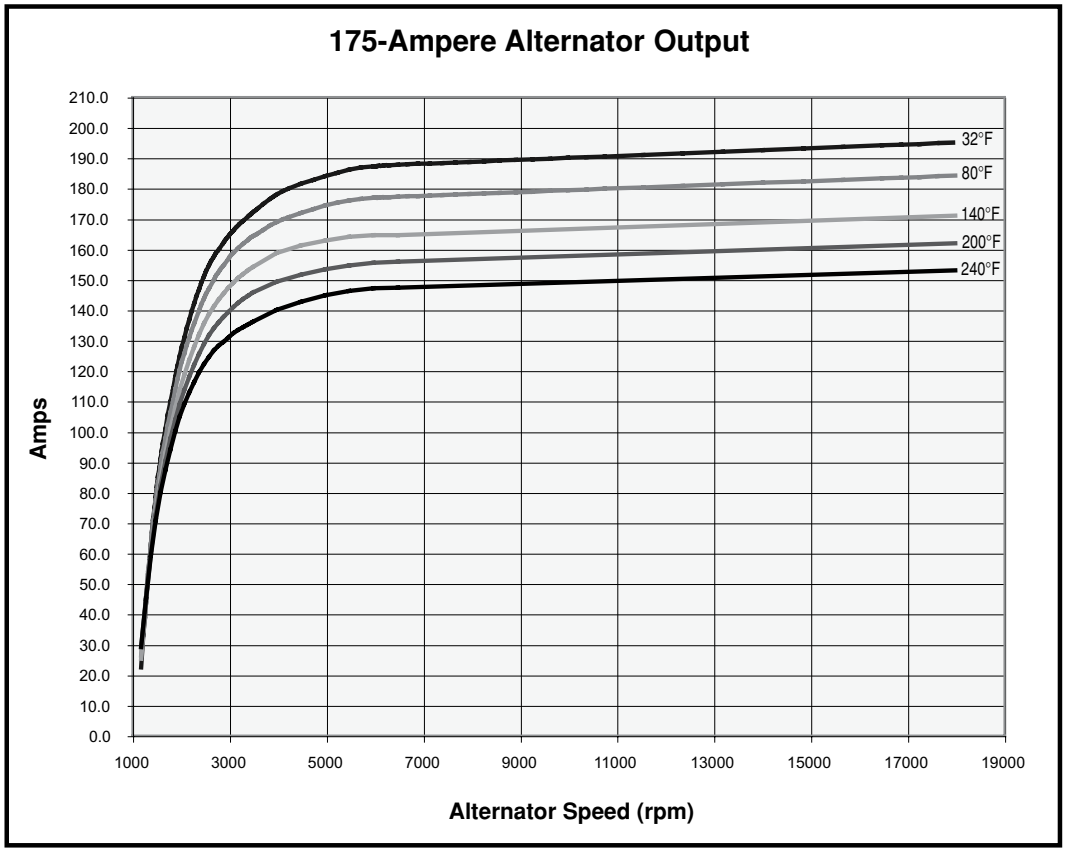
ALTERNATOR PERFORMANCE CURVES
175 AMPERES

Engine	Pulley Ratio	Model Application
2.5L I-4	2.76:1	Transit Connect



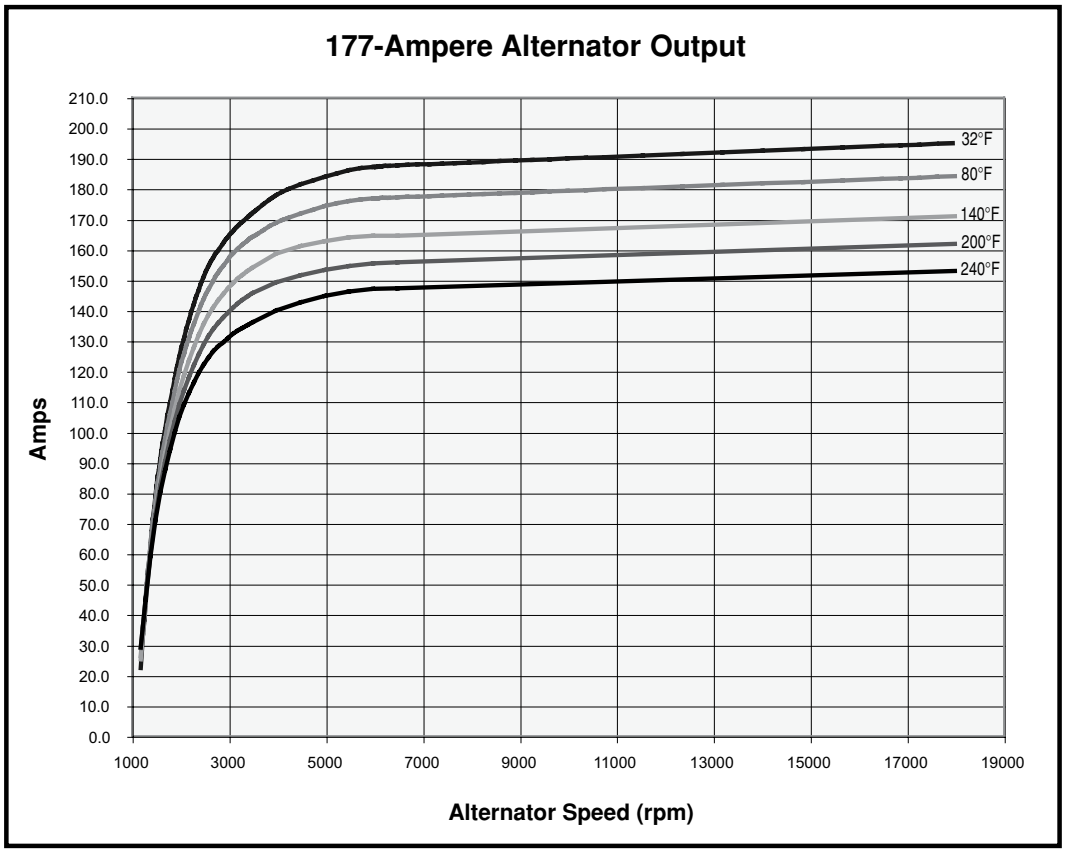
ALTERNATOR PERFORMANCE CURVES
175 AMPERES

Engine	Pulley Ratio	Model Application
6.8L V10	2.71:1	F-53 Motorhome Chassis/ F59 Chassis Cab F-Series SD Chassis Cab



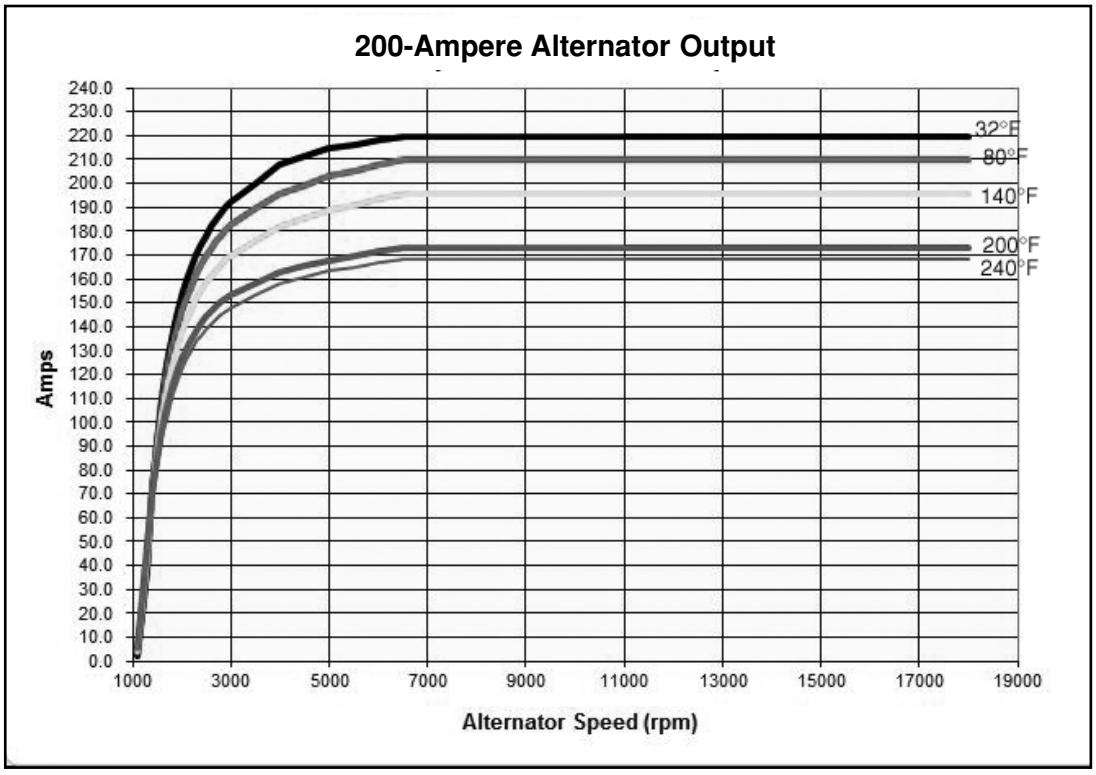
ALTERNATOR PERFORMANCE CURVES
177 AMPERES

Engine	Pulley Ratio	Model Application
6.8L V10	2.95:1	F-650/F-750 Super Duty



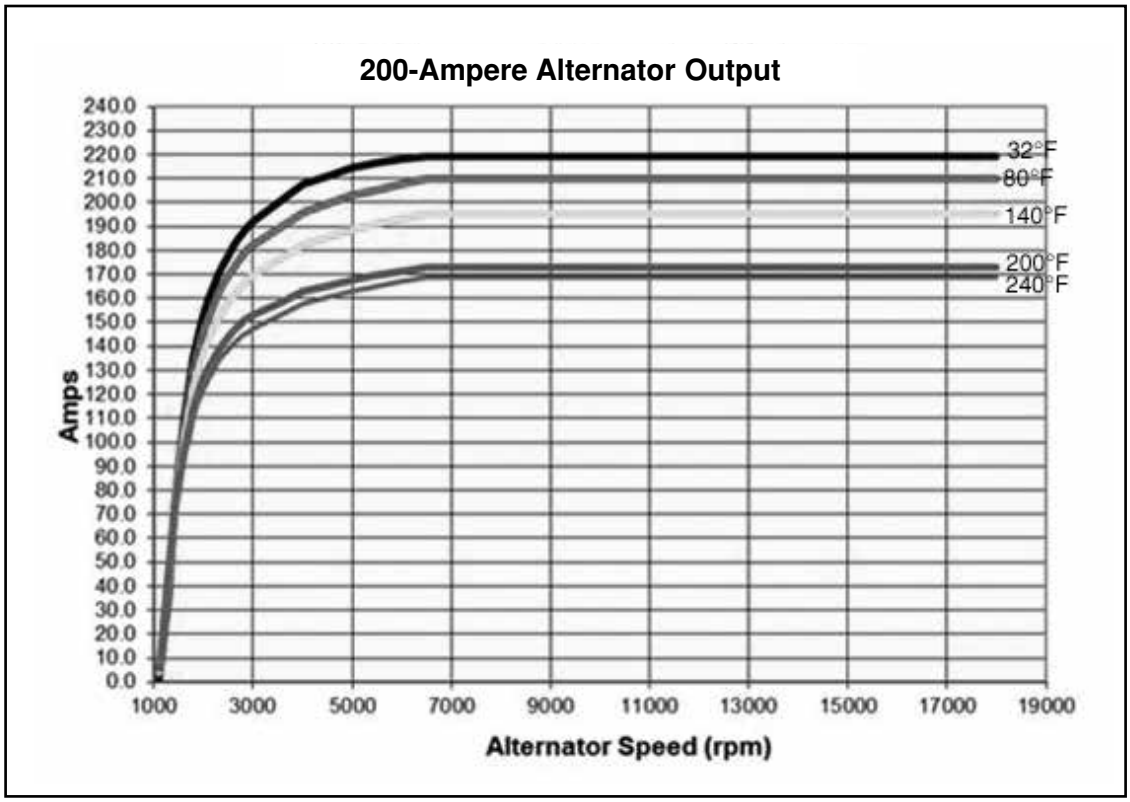
ALTERNATOR PERFORMANCE CURVES
200 AMPERES

Engine	Pulley Ratio	Model Application
6.7L Power Stroke V8 Turbo Diesel	3.09:1	F-Series Super Duty



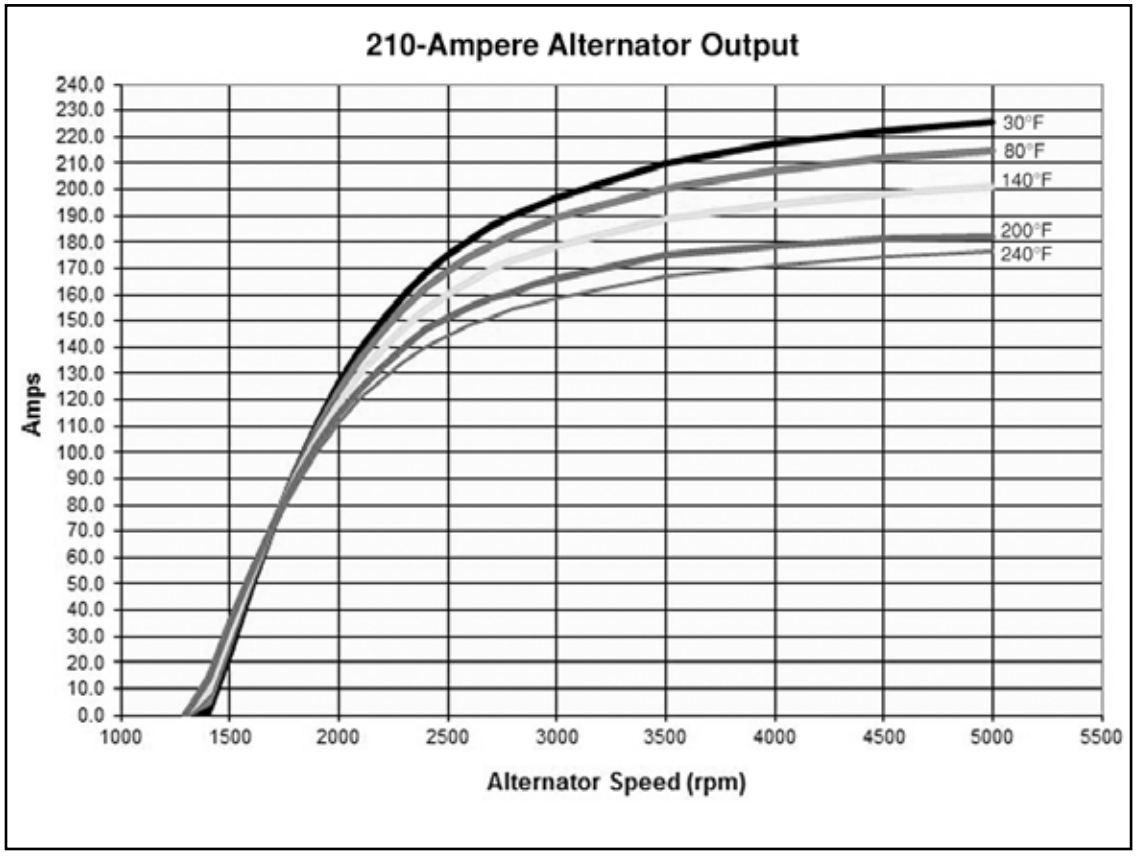
ALTERNATOR PERFORMANCE CURVES
200 AMPERES

Engine	Pulley Ratio	Model Application
2.7L EcoBoost V6, 3.5L EcoBoost V6, 3.7L V6	2.67:1	F-150 XL and XLT
5.0L V8	2.81:1	F-150 XL and XLT



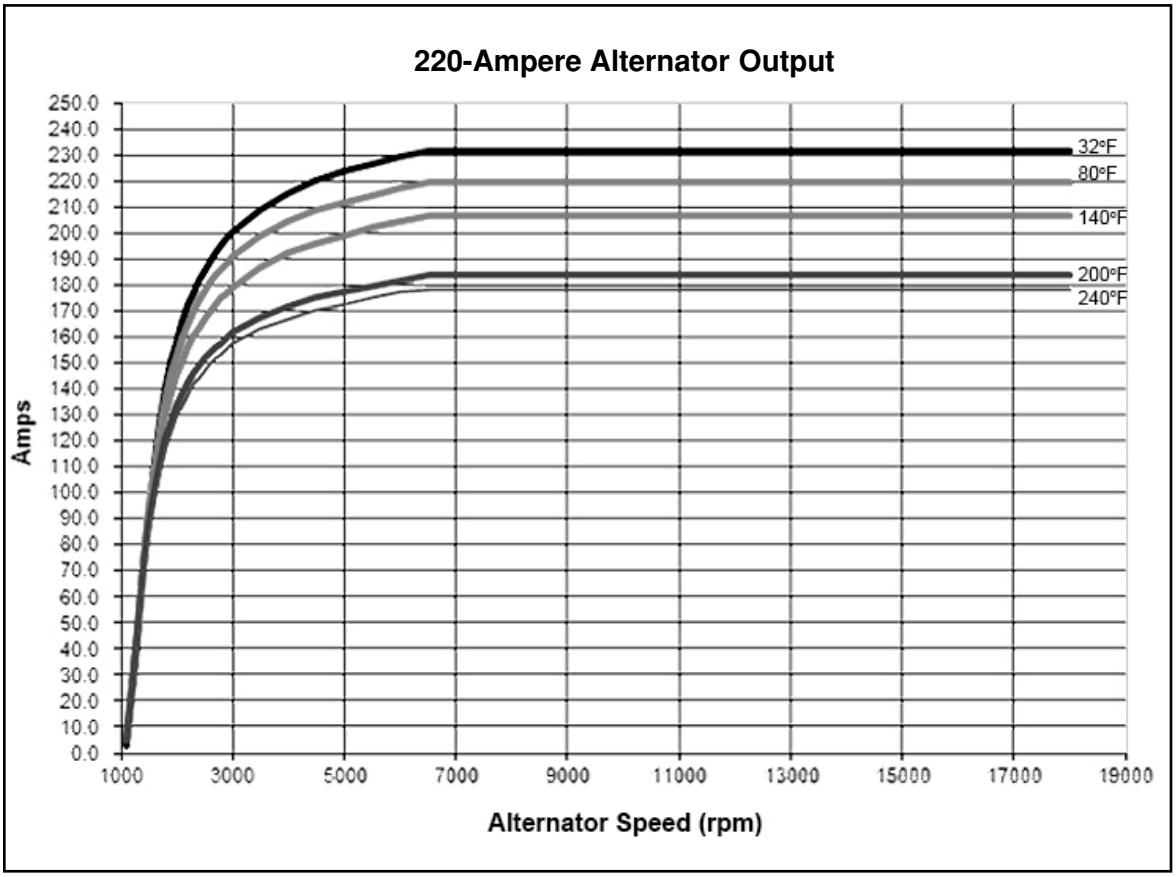
ALTERNATOR PERFORMANCE CURVES
210 AMPERES

Engine	Pulley Ratio	Model Application
3.2L Power Stroke I-5 Diesel	2.70:1	Transit



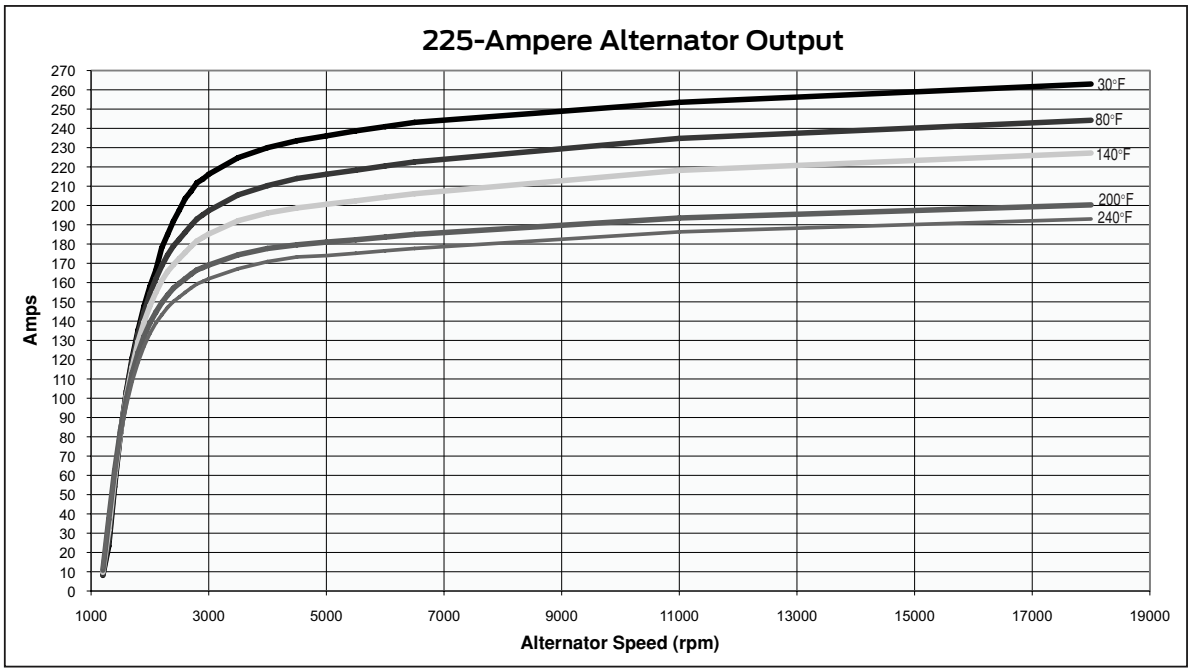
ALTERNATOR PERFORMANCE CURVES
220 AMPERES

Engine	Pulley Ratio	Model Application
6.7L Power Stroke V8 Turbo Diesel	3.09:1	Super Duty F-650/F-750



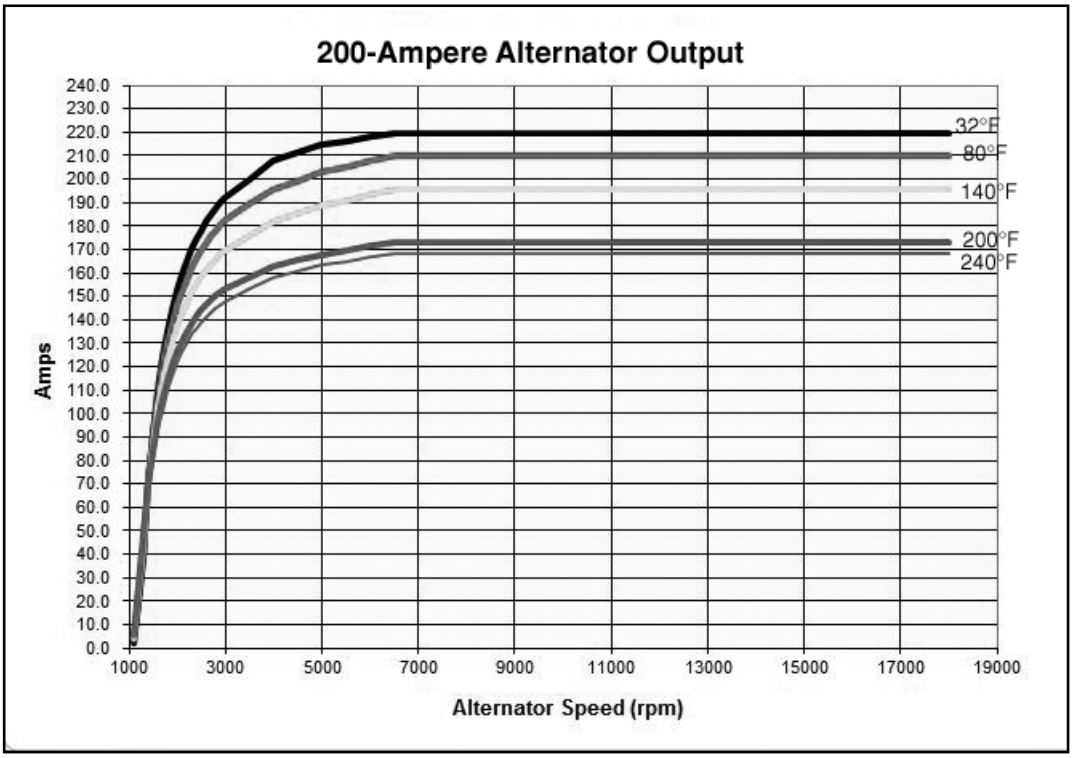
ALTERNATOR PERFORMANCE CURVES
225 AMPERES

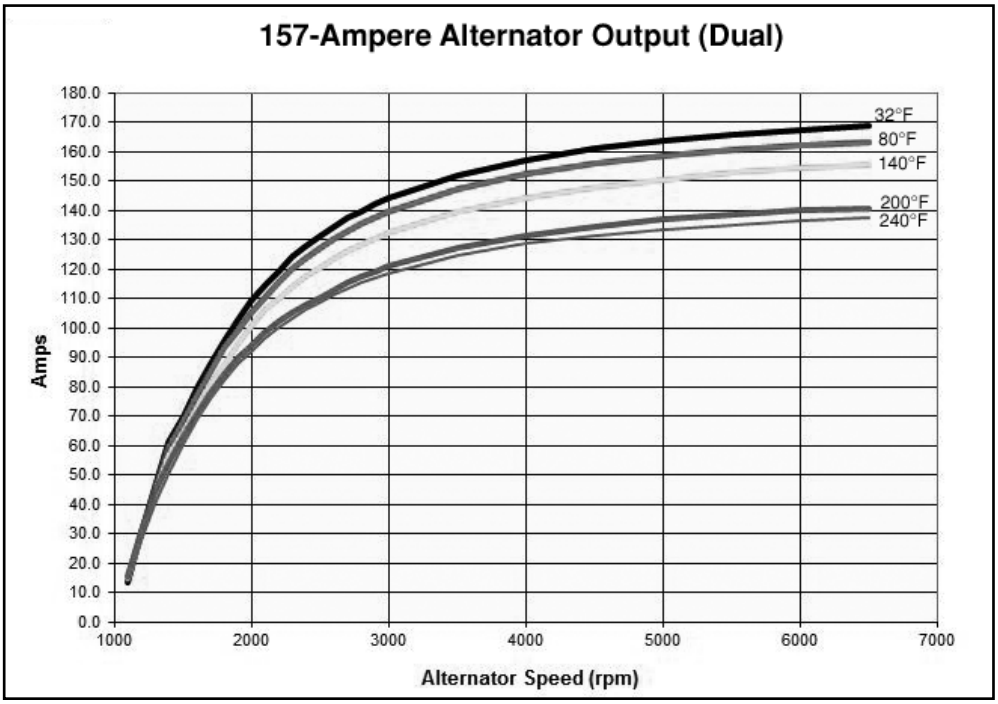
Engine	Pulley Ratio	Model Application
5.4L V8, 6.8L V10	3.00:1	E-Series Cutaway and Stripped Chassis



ALTERNATOR PERFORMANCE CURVES
200/157 AMPERES (DUAL)

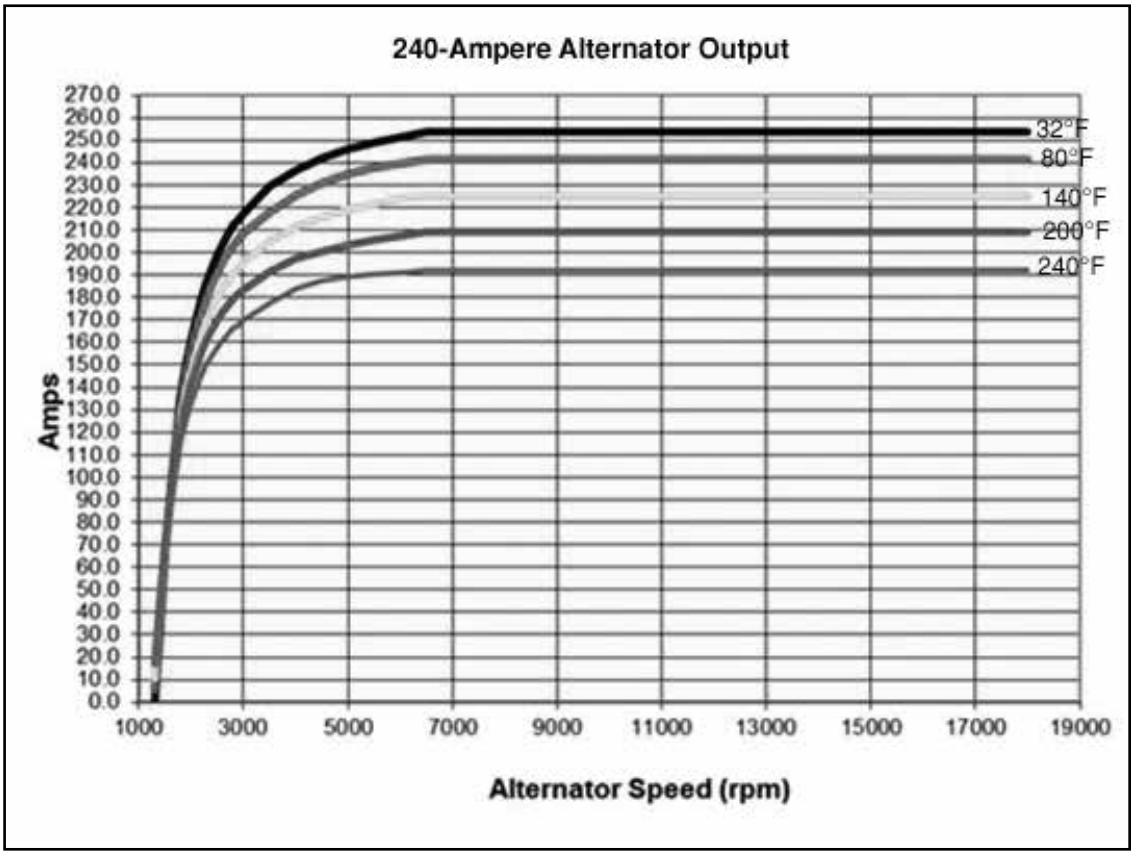
Engine	Pulley Ratio	Model Application
6.7L Power Stroke V8 Turbo Diesel	3.09:1 (primary) 2.78:1 (secondary)	F-Series Super Duty F-250/F-350/F-450 2016 Super Duty F-650/F-750





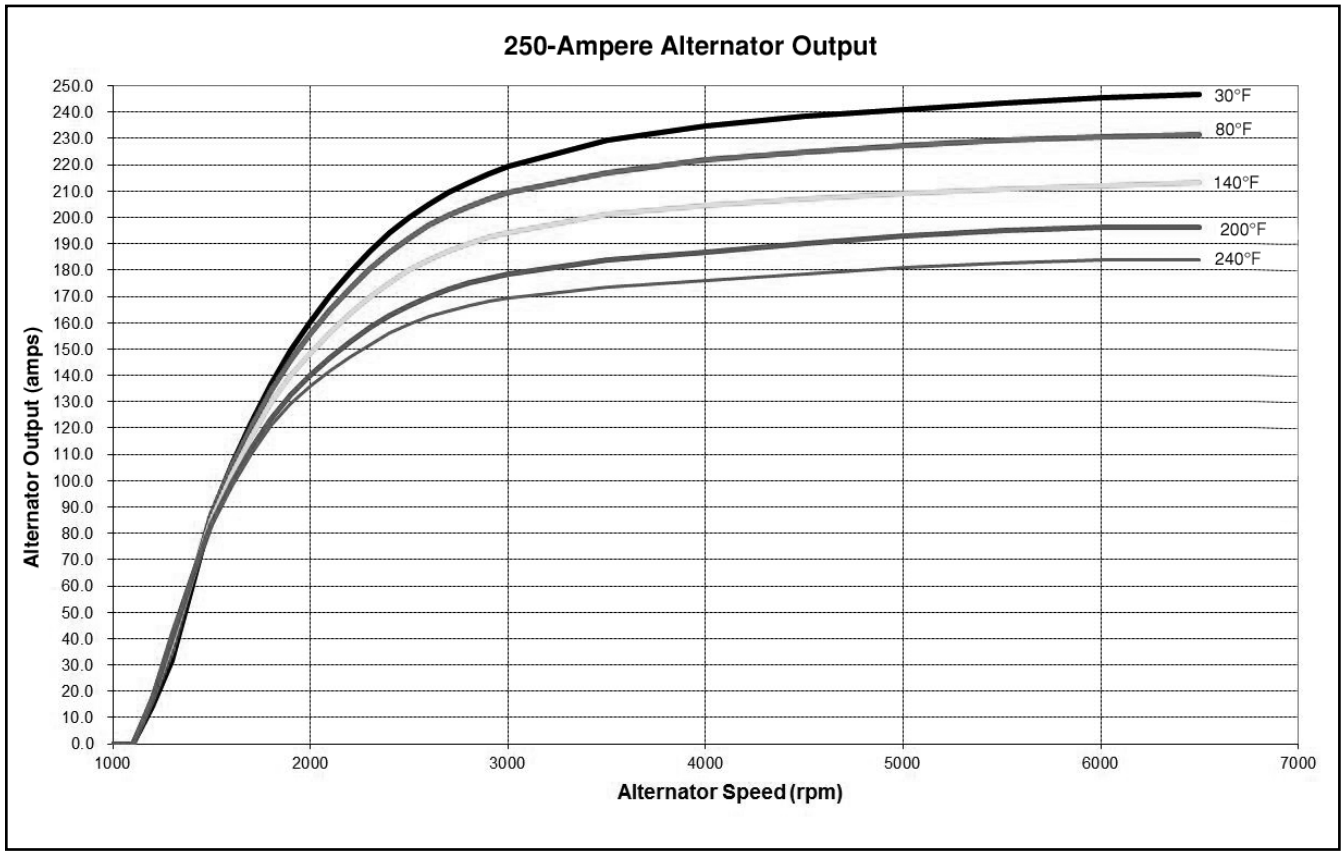
ALTERNATOR PERFORMANCE CURVES
240 AMPERES

Engine	Pulley Ratio	Model Application
3.5L EcoBoost V6, 3.7L V6	2.67:1	F-150 Lariat, King Ranch and Platinum
5.0L V8	2.81:1	F-150 Lariat, King Ranch and Platinum



ALTERNATOR PERFORMANCE CURVES
250 AMPERES

Engine	Pulley Ratio	Model Application
3.5L EcoBoost V6, 3.7L V6	2.70:1	Transit



ALTERNATOR SPECIFICATIONS — SUPER DUTY F-650/F-750 (2016) w/6.7L POWER STROKE TURBO DIESEL

	Alternator Output (Amp)		Alternator Operating Specifications				
Alternator (Integral Regulator Type)	**Idle**	**Maximum**	**Rated Output (AMPs)**	**Cut-in (rpm)[1]**	**Maximum Output Speed (rpm)[2]**	**Drive**	**Drive Ratio (to:1)**
157 Amp Denso Brushless Type (Straddle Mount)	See Output Curves	157	157	1,100	20,000	Belt	2.78
200 Amp Denso Brushless Type (Straddle Mount)	See Output Curves	200	200	1,100	20,000	Belt	3.09
220 Amp Denso Brushless Type (Straddle Mount)	See Output Curves	220	220	1,100	20,000	Belt	3.09

(1) Alternator rpm, not engine rpm.
(2) Short run rpm rating. Maximum rpm for continuous run is 18,000.
NOTE: For alternator performance data curves, refer to the Medium Duty Component Information Data Book.

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